

P23903.A02



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Sabine GENICOT et al.

Group Art Unit : 1643

Appln. No : 10/626,671

Examiner : Unknown

Filed : July 25, 2003

For : GALACTAN SULFOHYDROLASES, CORRESPONDING AMINO ACID AND
NUCLEOTIDE SEQUENCES, SULFOHYDROLASE PREPARATIONS, PROCESSES,
AND PRODUCTS THEREOF

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir :

In accordance with Applicants' duty of disclosure under 37 C.F.R. 1.56, Applicants hereby submit the following Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98, and in conformance with MPEP 609 and 37 C.F.R. 1.98(d).

Applicants hereby make of record the disclosure statements filed October 2, 2000, December 6, 2000, October 4, 2001, and March 15, 2002 and the Information cited by the Examiner in the Office Action mailed November 7, 2001 in Application No. 09/567,003.

The Examiner is respectfully requested to consider the documents cited in the parent application, and to make the documents cited therein of record in the instant application.

Applicants note that copies of documents cited in the above-mentioned disclosure statement have been submitted in parent Application No. 09/567,003. Accordingly, pursuant to 37 C.F.R.

P23903.A02

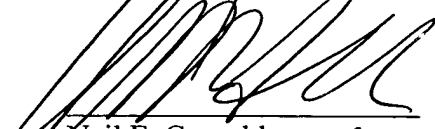
1.98(d) copies of the documents are not being submitted herewith, and the Examiner is invited to review and consider the documents in the parent application. Of course, should any of the documents not be readily available to the Examiner, the Examiner is requested to contact the undersigned and additional copies will be submitted.

Applicants further note that parent Application No. 09/567,003 has matured into U.S. Patent No. US 6,620,604 B1 and a copy is attached hereto.

For the convenience of the Examiner, the above-noted documents cited in the parent applications and U.S. Patent No. US 6,620,604 B1 are listed on the attached Forms PTO-1449. The Examiner is requested to initial the Forms PTO-1449, and to return the initialed copy with the next communication from the U.S. Patent and Trademark Office.

Should the Examiner have any questions or comments regarding this matter, the undersigned may be contacted at the below-listed telephone number.

Respectfully submitted,
Sabine GENICOT et al.


Neil F. Greenblum
Reg. No. 28,394 *fnr. 33099*

October 22, 2003
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191



Form PTO-1449

U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket No.
P23903Serial No.
10/626,671

INFORMATION DISCLOSURE STATEMENT
BY APPLICANT
(Use several sheets if necessary)

Applicant
Sabine GENICOT etFiling Date
July 25, 2003Group
1643

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6 0 6 3 9 1 5	05/16/2000	HANSEN et al.			
	6 0 3 7 1 5 9	03/14/2000	UCHIMURA et al.			
	6 0 1 3 5 0 4	01/11/2000	YU et al.			
	6 0 0 1 6 2 7	12/14/1999	DÖRREICH et al.			
	5 9 3 9 2 8 9	08/17/1999	ERTESVÅG et al.			

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
0 0 / 0 6 6 0 9	02/10/2000	W. I. P. O.			
9 7 0 1 1 4 8	04/10/1998	FRANCE			
9 6 1 2 2 0 4	04/10/1998	FRANCE			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

1	ARMISEN et al., "Production, Properties and Uses of Agar", <u>Production and Utilization of Products from Commercial Seaweeds</u> , FAO Fisheries Technical Paper, 288, pp. 1-57 (1987).
2	STANLEY, "Production, Properties and Uses of Carrageenan", <u>Production and Utilization of Products from Commercial Seaweeds</u> , FAO Fisheries Technical Paper, 288, pp. 116-146 (1987).
3	THERKELSEN, "Carrageenan", <u>Industrial Gums: Polysaccharides and their Derivatives</u> , 3rd ed., pp. 145-180, (1993).
4	DeRUITER et al., "Carrageenan Biotechnology", <u>Trends in Food Science & Technology</u> , Vol. 8, pp. 389-395 (1997).
5	HOFFMANN et al., "Effect of Isolation Procedures on the Molecular Composition and Physical Properties of <i>Eucheuma Cottonii</i> Carrageenan", <u>Food Hydrocolloids</u> , 9, pp. 281-289 (1995).
6	VIEBKE et al., "Characterization of Kappa- and Iota-Carrageenan Coils and Helices by MALLS/GPC", <u>Carbohydr. Polym.</u> , Vol. 27, pp. 145-154 (1995).
7	Le QUESTEL et al., "Computer Modelling of Sulfated Carbohydrates: Applications to Carrageenans", <u>Int. J. Biol. Macromol.</u> , Vol. 17, pp. 161-174 (1995).

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



P: 23903.F06

Sheet 2 of 5

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket No.
P23903Serial No.
10/626,671INFORMATION DISCLOSURE STATEMENT
BY APPLICANT
(Use several sheets if necessary)Applicant
Sabine GENICOT et al.Filing Date
July 25, 2003Group
1643

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- | | | |
|---|---|---|
| | 8 | REES, "Enzymic Synthesis of 3:6-Anhydro-L-Galactose within Porphyrin from L-Galactose 6-Sulphate Units", <u>Biochem. J.</u> , 81, pp. 347-352 (1961). |
| | 9 | REES, "Enzymatic Desulphation of Porphyrin", <u>Biochem. J.</u> , 80, pp. 449-453 (1961). |
| 1 | 0 | WONG et al., "Sulfohydrolase Activity and Carrageenan Biosynthesis in <i>Chondrus crispus</i> (Rhodophyceae)", <u>Plant Physiology</u> , Vol. 61, pp. 663-666 (1978). |
| 1 | 1 | ZINOUN et al., "Evidence of Sulfohydrolase Activity in the Red Alga <i>Calliblepharis jubata</i> ", <u>Botanica Marina</u> , Vol. 40, pp. 49-53 (1997). |
| 1 | 2 | LAWSON et al., "An Enzyme for the Metabolic Control of Polysaccharide Conformation and Function", <u>Nature</u> , Vol. 227, pp. 392-93 (July 25, 1970). |
| 1 | 3 | CRAIGIE et al., "Carrageenan Biosynthesis", <u>Proc. Int. Seaweed Symp.</u> , pp. 369-377 (1979). |
| 1 | 4 | SELBY et al., "Agar", <u>Industrial Gums: Polysaccharides and their Derivatives</u> , 3rd ed., pp. 87-103 (1993). |
| 1 | 5 | JOL et al., "A Novel High-Performance Anion-Exchange Chromatographic Method for the Analysis of Carrageenans and Agars Containing 3,6-Anhydrogalactose", <u>Analytical Biochemistry</u> , 268, pp. 213-222 (1999). |
| 1 | 6 | MERRIL et al., "Ultrasensitive Stain for Proteins on Polyacrylamide Gels Shows Regional Variation in Cerebrospinal Fluid Proteins", <u>Science</u> , 211, pp. 1437-1438 (1981). |
| 1 | 7 | LAEMMLI, <u>Nature</u> , 227, pp. 680-685 (1970). |
| 1 | 8 | APT et al., "The Gene Family Encoding the Fucoxanthin Chlorophyll Proteins from the Brown Alga <i>Macrocystis pyrifera</i> ", <u>Mol. Gen. Genet.</u> , 246, pp. 455-464 (1995). |
| 1 | 9 | VALLON et al., "cDNA Sequence of M(Alpha), the Catalytic Subunit of the <i>Chlamydomonas reinhardtii</i> L-Amino Acid Oxidase (Accession No. <u>U78797</u>): a New Sequence Motif Shared by a Wide Variety of Flavoproteins", <u>Plant Physiol.</u> , 115, pp. 1729-1731 (1997). |
| 2 | 0 | POTIN et al., "Purification and Characterization of a New κ -Carrageenase from a Marine <i>Cytophaga</i> -like Bacterium", <u>Eur. J. Biochem.</u> , 201, pp. 241-247 (1991). |
| 2 | 1 | KIDBY et al., "A Convenient Ferricyanide Estimation of Reducing Sugars in the Nanomole Range", <u>Analytical Biochemistry</u> , 55, pp. 321-325 (1973). |

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form PTO-1449		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P23903	Serial No. 10/626,671
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicant Sabine GENICOT et al.	
				Filing Date July 25, 2003	Group 1643
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
	2	2	KNUTSEN et al., "The Use of Neocarrabiose Oligosaccharides with Different Length and Sulphate Substitution as Model Compounds for ¹ H-NMR Spectroscopy", <u>Carbohydrate Research</u> , 229, pp. 233-244 (1992).		
	2	3	FALSHAW et al., "Structural Analysis of Carrageenans from Burmese and Thai Samples of <i>Cantenella nipae</i> Zanardini", <u>Carbohydrate Research</u> , 285, pp. 81-98 (1996).		
	2	4	STORTZ et al., "High-Field NMR Spectroscopy of Cystocarpic and Tetrasporic Carrageenans from <i>Iridaea undulosa</i> ", <u>Carbohydrate Research</u> , 261, pp. 317-326 (1994).		
	2	5	HEMMINGSON et al., "Biosynthesis of Agar Polysaccharides in <i>Gracilaria chilensis</i> Bird, McLachlan et Oliveira", <u>Carbohydrate Research</u> , 287, pp. 101-115 (1996).		
	2	6	HEMMINGSON et al., "In Vivo Conversion of 6-O-sulfo-L-galactopyranosyl Residues into 3,6-anhydro-L-galactopyranosyl Residues in <i>Gracilaria chilensis</i> Bird, McLachlan et Oliveira", <u>Carbohydrate Research</u> , 296, pp. 285-292 (1996).		
	2	7	PEAT et al., "Carbohydrase and Sulphatase Activities of <i>Porphyra umbilicalis</i> ", <u>Biochem. J.</u> , 79, pp. 7-12 (1961).		
	2	8	"Carrageenan, General Description" (Product Literature of Hercules Incorporated), pp. 1-20 (February 1996).		
	2	9	BRADFORD, "A Rapid and Sensitive Method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding", <u>Anal. Biochem.</u> , 72, pp. 248-254 (1976).		
	3	0	KNUTSEN et al., "Characterisation of Water-Extractable Polysaccharides from Norwegian <i>Furcellaria Lumbricalis</i> (Huds.) Lamour. (Gigartinales, Rhodophyceae) by IR and NMR Spectroscopy", <u>Bot. Mar.</u> , 30, pp. 497-505 (1987).		
	3	1	CRAIGIE et al., "Carrageenans and Agars", <u>Handbook of Phycological Methods. Biochemical and Physiological Methods</u> , pp. 109-131 (1978).		
	3	2	FALSHAW et al., "The Backbone of the Sulfated Galactan from <i>Plocamium costatum</i> (C. Agardh) Hook. f. et Harv. (Plocamiaceae, Rhodophyta)", <u>Bot. Mar.</u> , 42, pp. 431-435 (1999).		
	3	3	USOV et al., "Polysaccharides of Algae. XXXIV: Detection of Iota-Carrageenan in <i>Phyllophora brodiaei</i> (Turn.) J. Ag. (Rhodophyta) Using ¹³ C-NMR Spectroscopy", <u>Botanica Marina</u> , 28, pp. 367-73 (1985).		
	3	4	RENN, "Biotechnology and the Red Seaweed Polysaccharide Industry: Status, Needs, and Prospects", <u>Tibtech</u> , 15, 9-14 (1997).		
	3	5	REES, "Structure, Conformation, and Mechanism in the Formation of Polysaccharide Gels and Networks", <u>Adv. Carbohydr. Chem. Biochem.</u> , 24, pp. 267-332 (1969).		
EXAMINER			DATE CONSIDERED		
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.					

[illegible]



Form PTO-1449

U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket No.
P23903Serial No.
10/626,671

INFORMATION DISCLOSURE STATEMENT
BY APPLICANT
(Use several sheets if necessary)

Applicant
Sabine GENICOT et al.Filing Date
July 25, 2003Group
1643

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5 5 8 5 2 5 5	12/1996	TSUKADA et al.			
	5 9 3 2 2 1 1	08/1999	WILSON et al.			
	6 6 2 0 6 0 4	09/16/03	GENICOT et al.			

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

4	0	McLEAN et al., "Neocarratetraose 4-O-Monosulphate β -Hydrolase from <i>Pseudomonas carrageenovora</i> ", <u>Eur. J. Biochem.</u> , 113, pp. 447-456 (1981).
4	1	SHAW et al., "Substrate Specificity and Other Properties of the Inducible S3 Secondary Alkylsulphohydrolase Purified from the Detergent-Degrading Bacterium <i>Pseudomonas C12B</i> ", <u>Biochem. J.</u> , 187, pp. 181-196 (1980).

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.